

REMARKS

The Office Action dated November 3, 2005, has been carefully considered. Applicant requests that the Examiner consider the following remarks.

Claims 1 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nance (6,293,141) in view of Guthke (5,388,790) and Gomez (6864,805). Claims 2 – 5 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nance, in view of Guthke, and Gomez, in further view of Gladfelter (6,309,721). Claims 6, and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nance, in view of Guthke and Gomez, in further view of Davis (6,827,594).

The claims are being re-submitted for reconsideration without substantive amendment in view of the arguments and evidence submitted herewith. More particularly, the claims have been amended by replacing the term “harness” with “system” to clarify that the invention relates to more than just a restraint for wires. The amendment is intended to broaden, not narrow, interpretation of the claims. Reconsideration is respectfully requested. No new matter has been added.

The present invention is a modular system of electrical conductors for use with landing gear systems on a jet aircraft. The modular nature of the system allows an aircraft technician to troubleshoot and replace certain sections of a harness quicker and easier than with wiring systems presently employed by permitting replacement of portions of the harness without disrupting other systems associated with the harness. More particularly, a harness in accordance with the present invention is divided into four sub-assemblies including the main sub-assembly, the brake temperature monitoring sub-assembly, the weight off wheels sub-assembly, and the anti-skid sub-assembly. The

various sub-assemblies may be connected to form a unitary harness that provides a protective conduit for wiring for critical landing gear systems. The use of light-weight composite connectors facilitates troubleshooting and substantially reduces the overall weight of the harness assembly. The quick nature in which a harness can be diagnosed and a specific section can be replaced allows for quicker turn around of aircraft and fewer cancellations.

The cited prior art neither teaches or suggests such a system. More particularly, U.S. Patent No. 6,293,141, issued to Nance, discloses an onboard system for monitoring landing gear strut movement primarily by monitoring hydraulic pressure. The Nance reference fails to either teach or suggest a modular landing gear wiring system that interfaces with the critical landing gear systems as claimed in the present invention.

U.S. Patent No. 5,388,790 (Guthke et al.) completely fails to remedy the deficiencies of Nance. More particularly, the Guthke et al. reference merely discloses a guide and support frame for mounting electrical conductors in an aircraft. The Guthke reference makes absolutely no mention of the critical systems that Applicant's modular harness is connected with. More particularly, Guthke fails to reference the landing gear system or any of the critical components, namely weight-off-wheels sensor, anti-skid sensor, or brake temperature sensor. Since the Guthke reference fails to disclose any of these systems and further fails to disclose any wiring harness connected to any of these systems, the reference neither teaches or suggests a landing gear wiring system as disclosed and claimed by Applicant. In addition, it appears that the Guthke reference is non-analogous with respect to the present invention, and thus is not proper prior art.

U.S. Patent No. 6,864,805, issued to Gomez, discloses a surveillance system for monitoring the activity at least within the passenger cabin of a commercial airline and, in certain preferred embodiments, other interior portions of the aircraft. While Gomez notes that certain areas of the aircraft, such as the landing gear (See Col. 2, lines 1 – 5), are exposed and thus likely areas for installing surveillance, there is absolutely no teaching of a wiring harness or system for use with the landing gear systems as disclosed and claimed by Applicant.

U.S. Patent No. 6,309,721, issued to Gladfelter also fails to remedy the deficiencies in the art. The Gladfelter reference merely discloses a sleeve having a longitudinally extending slit for covering wires. Incorporating a “slit” as required by Gladfelter runs counter to the teachings of the present invention as it provides a potential for exposing the internal wiring to abrasion. Thus, Gladfelter neither teaches or suggests the modular wiring system disclosed by Applicant. In fact, Gladfelter teaches away from Applicant’s wiring system wherein abrasion resistant sleeves (without slits) are used to shield from abrasion. See, Page, 13, lines 5 – 12. This aspect of the invention is significant in protecting the wiring contained within the sleeve from abrasion-related failure.

Finally, the Examiner cites U.S. Patent No. 6,827,594, issued to Davis, for disclosing composite connectors. The Davis reference, however, discloses a complex connector assembly that is completely different than the composite connectors of the present invention. The Davis connector includes a complex “yoke” and “latching device” that are completely different than the composite connectors disclosed by Applicant. More particularly, the present invention discloses the connectors incorporating gold plated pins and sockets which increase conductivity as well as corrosion resistance. See,

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Page 12, lines 17 – 23. In addition, the wire used in the harness assembly is silver coated copper, instead of the tin coated wires used in the prior art harnesses. *Id.* Furthermore, the harness incorporates sealing thermal fit tubing with an adhesive lining to seal all openings in the joints at various transition areas of the harness. *Id.* By covering various transition areas of the harness, not only are these areas protected against moisture contamination, but also added strain relief is provided to help against damage from servicing and vibration. See, Page 12, line 23 – Page 13, line 4. Accordingly, the composite connectors disclosed by Applicant are completely different than the connectors disclosed by Davis.

IMPROPER COMBINATION OF REFERENCES

Notwithstanding the distinctions discussed hereinabove, Applicant submits that the Examiner has improperly combined references to support rejection under 35 U.S.C. 103. More particularly, Applicant is unable to find any teachings or suggestions that it would be desirable to combine the references as suggested by the Examiner. It is axiomatic that in order to justify combination of references it is not only necessary that it be physically possible to combine them, but that the art contain something to suggest the desirability of doing so. Ex parte Walker, 135 U.S.P.Q. 195 (1961). Furthermore, the Examiner must identify where the prior art provides a motivating suggestion for the combination. In re Jones, 958 F.2d 347, 21 USPQ.2d 1941 (Fed. Cir. 1992). The Federal Circuit, in In re Jones, confirmed that “[b]efore the PTO may combine the disclosures of two or more prior art references in order to establish prima facie obviousness, there must

be some suggestion for doing so . . .” (citing In re Fine, 837 F.2d 1071, 1074 (Fed Cir. 1988)).

As discussed above, the various references cited by the Examiner fail to teach or suggest the presently claimed invention, either alone or in combination. In addition, the cited references fail to teach or suggest the desirability of the combined teachings relied on by the Examiner. Accordingly, the proposed combinations are improper and fail to support rejection under 35 U.S.C. § 103. See, C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 48 USPQ.2d 1225 (Fed. Cir. 1998) (There must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination).

It is improper to use the inventor’s disclosure as an instruction book on how to reconstruct the prior art. Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1 USPQ.2d 1593 (Fed. Cir. 1987). During prosecution, an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1 USPQ.2d 1593 (Fed. Cir. 1987) (A holding that claims are invalid based merely upon finding similar elements in separate prior art patents would be contrary to statute and would defeat the congressional purpose in enacting Title 35). As the Federal Circuit has often stated, “virtually all [inventions] are combinations of old elements.” Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698 (Fed. Cir. 1983).

Accordingly, to prevent the use of hindsight based on the invention to defeat patentability of the invention, the law requires the examiner to show a motivation to combine the references that create the case of obviousness. In Re Rouffet, 149 F.3d

1350, 1357 (Fed. Cir. 1998). The showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, is not evidence.

The Federal Circuit has identified three possible sources for a motivation to combine references: (1) the nature of the problem to be solved; (2) the teachings of the prior art; and (3) the knowledge of persons of ordinary skill in the art. *Id.* In the present case the Examiner relies upon none of the three possible sources for motivation. Instead, after each citation of a particular feature in the cited art, the Examiner summarily concludes that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of X by combining Y.” The Examiner has not, however, explained what specific understanding or technological principal within the knowledge of one of ordinary skill in the art would have suggested the combination. When the Examiner does not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of the present invention to make the combination, it is presumed that the Examiner selected the references with the assistance of hindsight. *Id.* at page 1358.

While a suggestion to combine may come from the prior art, as filtered through the knowledge of one skilled in the art, Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 43 USPQ.2d 1481 (Fed. Cir. 1997), rarely will the skill in the art operate to supply missing knowledge or prior art to reach an obviousness judgment. In re Rouffet, 149 F.3d 1350, 47 USPQ.2d 1453 (Fed. Cir. 1998). If such rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance. *Id.*

In Ex Parte Clapp, 227 USPQ 972, claims were rejected under 35 U.S.C. §103 when the Examiner combined a number of references. The Board in Clapp set out the requirement that the Examiner state a line of reasoning as to why the artisan, viewing only the collective teachings of the references, would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. The Board in Clapp noted that the Examiner had done little more than “cite references to show that one or more elements or sub-combinations thereof, when each is viewed in a vacuum, is known. 227 USPQ 972, 973. The Board held that “to support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” 227 USPQ 972, 973. The Board could not find anything in the references to expressly or impliedly teach or suggest the modifications urged by the Examiner, nor could the Board find a line of reasoning advanced by the Examiner as to why the artisan would have concluded that the modifications urged by the Examiner were obvious. The Board held that, on the record before it, “the artisan would not have found it obvious to selectively pick and choose elements or concepts from the various references so as to arrive at the claimed invention without using the claims as a guide.”

Applicants also rely on the decision of the Court of Appeals for the Federal Circuit in Carella v. Starlight Archery, 231 USPQ 644. One of the issues in Carella was the obviousness of the invention over the prior art. The CAFC noted that the Court below had acknowledged that use of vertical height for range finding, use of multiple

elements on a sight and use of circular apertures were each known in the art, but concluded that the prior art lacked any teaching or suggestion to combine the separate features in a manner permitting use of circular apertures for simultaneous range finding. Obvious cannot be established by combining the teachings of the prior art to produced the claimed invention absent some teaching, suggestion or incentive supporting the combination. ACS Hospital Systems, Inc. v. Montefiore Hospital, 723 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984).

Both Carelly and Clapp stand for the proposition that the art, not the Examiner, must teach the suggested combination. Further, if the references do not expressly or impliedly suggest the claimed combination then the burden falls on the Examiner to advance a line of reasoning which supports the position advanced by the Examiner.

In Alco Standard Corp. v. Tennessee Valley Authority, 808 F.2d 1490, 1498, 1 USPQ.2d 1337, 1343 (Fed. Cir. 1986), the court stated: "the question is not simply whether the prior art 'teaches' the particular element of the invention, but whether it would suggest the desirability, and thus the obviousness, of making the combination." The record does not reveal any such suggestion or teaching that would lead to the Applicants' claimed invention.

In view of the amendments and arguments presented herein it is believed that that the claims are patentably distinguishable over the prior art. Accordingly, Applicants respectfully requests a favorable action on this case.


Should the Examiner have any questions, comments, or concerns, the undersigned would appreciate a telephone conference in order to expedite this case.

Respectfully submitted,

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